AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An information processing apparatus for testing and debugging multitask programs operating on a real-time operating system, comprising:

user interface means for displaying an operation state of a program by an X-Y coordinate with respect to an X-axis value representing timings of events and a Y-axis value representing tasks, to a user in a time-series manner based on program execution history information, and for receiving a portion of a defect pointed out by the user in the displayed operation state; and

operation analysis means for analyzing a cause of the defect from ~~the portion~~ a timing and a task of the defect pointed out from the user by said user interface means and from the operation state of the program, and for specifying a solution for solving the cause of the defect, wherein

said operation analysis means regenerates an operation state on which said solution is reflected; and

said user interface means displays said ~~defect of the cause~~ cause of the defect, said solution and the regenerated operation state to the user.

2. (Currently amended) An information processing apparatus ~~according to claim 1~~ comprising:

user interface means for displaying an operation state of a program to a user in a time-series manner based on program execution history information, and for receiving a portion of a defect pointed out by the user in the displayed operation state; and

operation analysis means for analyzing a cause of the defect from the portion of the defect pointed out from the user by said user interface means and from the operation state of the program,

wherein if said operation analysis means cannot specify a portion in which ~~said~~ a solution is reflected on the operation state,

said information processing apparatus further urges the user to designate ~~the~~ another portion of the defect ~~in which the solution is reflected~~ on the operation state;

said operation analysis means regenerates an operation state on which the solution is reflected in the other portion designated by the user; and

said user interface means displays said cause of the defect, the solution and the regenerated operation state to the user.

3. (Currently amended) An information processing apparatus according to claim ~~1~~ 2, wherein

said information processing apparatus has program function correspondence information for specifying said solution.

4. (Currently amended) An information processing apparatus according to claim ~~1~~ 2, wherein

said user interface means uniquely identifies the ~~designated~~ portion of the defect by allowing the user to designate the portion of the defect by a coordinate position.

5. (Currently amended) An information processing apparatus according to claim ~~1~~ 2, wherein

said information processing apparatus further automatically generates a program skeleton satisfying an original specification based on said solution and said execution history information.

6. (Currently amended) A recording medium having a defect analysis program ~~for allowing a computer to realize~~ to be executed by a computer to test and debug multitask programs operating on a real-time operating system, comprising the ~~following~~ steps of:

displaying an operation state of a program by an X-Y coordinate with respect to an X-axis value representing timings of events and a Y-axis value representing tasks, to a user in a time-series manner based on program execution history information;

analyzing a cause of a defect from ~~a portion~~ a timing and a task of the defect designated by the user and from the operation state of the program, and specifying a solution for solving the cause of the defect;

regenerating operation state on which said solution is reflected; and

displaying said cause of the defect, said solution and the regenerated operation state to the user.

7. (Currently amended) A recording medium ~~according to claim 6~~ having a defect analysis program for allowing a computer to realize the steps of:

displaying an operation state of a program to a user in a time-series manner based on program execution history information;

analyzing a cause of a defect from a portion of the defect designated by the user and from the operation state of the program, and

~~wherein the defect analysis program further allows the computer to realize the following functions of:~~

urging the user to designate ~~a~~ another portion of the defect ~~on which said solution is reflected~~ if ~~the~~ a portion in which the solution is reflected on said operation state cannot be specified;

regenerating an operation state on which the solution is reflected in the ~~designated~~ other portion; and

displaying said cause of the defect, said solution and the regenerated operation state to the user.

8. (Currently amended) A recording medium according to claim ~~6~~ 7, wherein the defect analysis program allows the computer to ~~realize a function of specifying~~ specify said solution by using a program function correspondence information table.

9. (Currently amended) A recording medium according to claim ~~6~~ 7, wherein the defect analysis program further allows the computer to realize a function ~~of~~ to automatically ~~generating~~ generate a program skeleton satisfying an original specification based on said solution and said execution history information.

10. (Currently amended) A defect analysis method for testing and debugging multitask programs operating on a real-time operating system, comprising the steps of:

displaying an operation state of a program by an X-Y coordinate with respect to an X-axis value representing timings of events and a Y-axis value representing tasks, to a user in a time-series manner based on program execution history information;

analyzing a cause of a defect from ~~a portion~~ a timing and a task of the defect designated by the user and from the operation state of the program, and specifying a solution for solving the cause of the defect;

regenerating operation state on which said solution is reflected; and

displaying said cause of the defect, said solution and the regenerated operation state to the user.

11. (Currently amended) A defect analysis method ~~according to claim 10, further~~ comprising the steps of:

displaying an operation state of a program to a user in a time-series manner based on program execution history information;

analyzing a cause of a defect from a portion of the defect designated by the user and from the operation state of the program, and

urging the user to designate ~~a~~ another portion of the defect ~~on which said solution is reflected~~ if ~~the~~ a portion in which the solution is reflected on said operation state cannot be specified;

regenerating an operation state on which the solution is reflected in the ~~designated~~ other portion; and

displaying said cause of the defect, said solution and the regenerated operation state to the user.

12. (Currently amended) A defect analysis method according to claim ~~10~~ 11, wherein said solution is specified by using a program function correspondence information table.

13. (Currently amended) A defect analysis method according to claim ~~10~~ 11, further comprising the step of:

automatically generating a program skeleton satisfying an original specification based on said solution and said execution history information.

14.-20. (Cancelled).